A Framework for Better Evaluations of Supply Chain Collaborations: Evidence from the Dutch Fast Moving Consumer Goods Industry

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A Framework for Better Evaluations of Supply Chain Collaborations: Evidence from the Dutch Fast Moving Consumer Goods Industry

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Purpose – The purpose of this paper is to develop a framework to better evaluate potential supply chain collaborations (SCCs).

Design/methodology/approach – Prior research is used to develop a conceptual framework of all relevant factors, both drivers and resistors, which is, next, empirically tested in the Dutch fast moving consumer goods (FMCG) industry.

Findings –The study provides a complete overview of all potential factors that should be evaluated before starting SSCs, categorized in "benefits", "forces", "enablers/barriers" and "risks".

Research limitations/implications – The sample of the study only consists of parties from one Dutch industry. Further research in other geographical areas and/or industries may result in stronger support. Furthermore, the importance of each driver and resistor has not been quantified for the specific party and collaboration. Quantifying the factors for each party might be beneficial and should also be considered in further research.

Practical implications – The study provides a checklist containing all potential factors for all parties involved.

Originality/value –This paper enriches the supply chain management (SCM) literature with an extensive specification of all potential drivers and resistors for starting SCCs structured in a framework.

1. Introduction

In the last decades companies realized the need for looking outside their organizational boundaries for new opportunities. This is due to various factors such as a constantly growing competition amongst organizations and higher customer expectations (Cao and Zhang, 2011; Lambert et al., 1996; Simatupang and Sridharan, 2002). According to Horvath (2001), a new vital base of competitive advantage that has not yet been fully exploited and, thus, offers a huge potential for growth and performance improvements is supply chain collaboration (SCC). Nowadays, SCC is a widely discussed topic and it means that "two or more independent companies work jointly to plan and execute [...] operations with greater success than when acting in isolation" (Simatupang and Sridharan, 2002).

Although the idea of SCC may sound easy in theory, collaborations in practice often fail (Sabath and Fontanella, 2002). According to Daugherty et al. (2006), SCC promises theoretically huge benefits but it appears that reality falls short, which indicates a gap between theory and practice. Multiple drivers and resistors have to be taken into account by all parties involved before a SCC can be started.

However, these drivers and resistors are often unknown or misunderstood by the parties, which might lead to the fact that SCCs likely fail. To avoid this, a complete overview of all potential drivers and resistors has to be provided to the parties. From this complete overview the parties can identify their relevant drivers and resistors for the specific SCC (Autry, 2011).

Although prior research has widely discussed potential drivers and resistors, until now there is no study that includes all drivers and resistors. For example, Ahmad and Ullah (2013) discuss potential benefits of SCCs and factors, which enable a party to start SCCs. Next to that, Cruijssen et al. (2007) discuss potential threats and impediments to start SCCs, whereas, de Leeuw and Fransoo (2009) only mention external factors which force a party to start SCCs. Furthermore, there exists some ambiguity and incompleteness in literature. Given that many SCCs fail in practice due to misunderstandings of or not evaluating all relevant drivers and resistors, it is necessary that a complete overview of all potential drivers and resistors, using consistent terminology and definitions, is provided.

The purpose of the research is to create a framework that provides this complete overview of all potential drivers and resistors for starting SCCs. This paper is an extended version of the paper by Jung et al. (2017), in which the authors only show an example for the framework. In addition to that, this paper presents the final framework of factors divided into four categories. The diverse terms for factors used in prior research and in practice, are clustered into clearly defined general factors. Moreover, Jung et al. (2017) only mention preliminary results, in this paper the complete analysis is presented. The remainder of the paper is organized as follows. In Section 2 a critical discussion of an extensive literature review is given and based on this the conceptual framework is created. Next, the completeness of this framework in practice is investigated. The research methodology is explained in Section 3. This is followed by the analysis of the interviews. The paper concludes with a discussion of the results as well as limitations and future research. Moreover, the contribution to the supply chain management (SCM) literature is explained and valuable practical implications are provided.

2. Theoretical development

Until now a great number of researchers tried to identify relevant drivers and resistors for SCC, but there exists some ambiguity and incompleteness in literature. Through an extensive literature review, two different kinds of ambiguity for the drivers can be identified. The first kind of ambiguity is that the same terms are used for different categories of drivers and that no unique term for the identified categories exists. Examples are the terms ”drivers” and ”driving forces”. Ahmad and Ullah (2013) use the term “drivers” to define two different categories. First, they use the term to define factors which enable someone to collaborate like “trust” or “commitment”. Second, they use the term for expected benefits of a successful SCC like “improved customer service” or “increase in market share”. Next to the term “drivers”, they also use the term “driving forces” for the expected benefits. However, the term “driving forces” is used by Fawcett et al. (2008b) to define factors which force a party to collaborate like “more demanding customers” or “economic globalization”. The second kind of ambiguity is that factors are assigned to more than one category. An example is the factor “trust”, which is identified by Ahmad and Ullah (2013) as a factor which enables someone to collaborate and by Beach et al. (2005) as an outcome of SCCs. For the resistors a unique term and definition is also missing. However, in contrast to the drivers, most of the time only one category is named for resistors. But even for this single category multiple terms exists like “barriers” (e.g. Akintoye et al., 2000) or “impediments” (e.g. Cruijssen et al., 2007). Moreover, some kind of incompleteness can be observed, namely that an in earlier research identified factor is not present in more recent literature. An example is the factor “transparency” which is identified as a factor which enables someone to collaborate by Visser (2010), but it is not mentioned by Ahmad and Ullah (2013).

Due to the ambiguity and incompleteness, the understanding and identification of all relevant drivers and resistors for the specific SCC represents a challenge for the parties. Therefore, a complete overview of all potential drivers and resistors is needed to better evaluate potential SCCs.

Drawing on prior research a conceptual framework is developed consisting of two umbrella terms. The first umbrella term is called “drivers” and the second one “resistors”. The term “drivers” represents the various categories of the drivers identified in literature and for all the retarding factors, the umbrella term “resistors” is used. Next, the drivers are split into three different categories. The first category, *benefits,* represents the expected benefits of a successful SCC like “cost reduction” (e.g. Akintoye et al., 2000). The second category, *forces,* contains external factors which force a party to collaborate like “economic globalization” (e.g. Fawcett et al., 2008b). The last category, *enablers,* includes the factors which enable someone to collaborate, and, in addition, have an effect on the success of SCC like “trust” (Ahmad and Ullah, 2013). The distinction between the three driver categories is made to highlight the differences between the drivers. Benefits and forces are both motivating factors to collaborate. Nevertheless, there is a big difference. Benefits represent the intrinsic motivation which means that the party decides to collaborate out of its own motivation (Lambert et al., 1996). Therefore, the benefits usually have a positive influence on SCC. In contrast to that, the forces represent the extrinsic motivation. Here a party is forced to collaborate and, therefore, a change in management practices towards more SCC is dictated but not necessarily wished by the party itself. This can have a negative influence on collaborations (Fawcett et al., 2008b). Hence, it is important to understand that next to the resistors also the category forces can have a negative influence on SCCs. A strong motivation to build a SCC is not enough. Therefore, in addition to the two kinds of motivators, enablers are required. The enablers increase the probability of success and, therefore, have a positive influence on SCC (Lambert et al., 1996). Finally, the resistors are divided into two categories, which both have a negative influence on collaboration. The first category, *barriers*, consists of impediments that can obstruct the SCC and are known before the collaboration starts. An example is “lack of (top) management commitment” (e.g. Akintoye et al., 2000). The other category is called *risks*. Risks are future-oriented and include events that might occur in the future but are unknown yet, like “uncertainty of decreased competitiveness” (e.g. Maloni and Benton, 1997). This distinction is also mentioned by Evans (2012) in the context of strategic planning. Given that barriers are already known at the moment in time parties decide whether to collaborate or not, each party can already take actions against the barriers. In contrast to that, the risks are uncertain at this point in time. Because of this, the decision to collaborate or not is dependent on the decision makers and their risk preferences (risk averse, risk neutral or risk loving). Finally, a connection between the driver “enablers” and the resistor “barriers” is observed. For every enabler a corresponding barrier can be identified (Walker et al., 2008). An example is the enabler “trust” and the barrier “lack of trust” (e.g. Visser, 2010). To show this connection, the factors of these two categories are combined. When evaluating SCCs, the factor will be identified either as an enabler, “presence of...”, or as a barrier, “lack of ...”.

Based on the review of 34 studies from 1991 to 2013, 113 benefits, 32 forces, 83 barriers, 180 enablers and 56 risks were identified. To create a clear overview of all potential drivers and resistors, these factors have to be assigned to so-called general factors. Reported benefits as “environmental performance improvements”, “minimizing waste and pollution” and “regeneration of local areas” (Walker et al., 2008) all refer to improvements in sustainability and are assigned to “sustainability improvements”. In total 72 general factors were created; 10 general factors for the benefits, 9 for the forces, 36 for the enablers/barriers category and 17 for the risks. Figure 1 shows the resulting conceptual framework including definitions and explanations of the influences of the categories on SCC as well as some general factors for each category. The complete framework is shown in

Appendix A and B, all factors identified from the 34 studies and the corresponding general factors are presented.

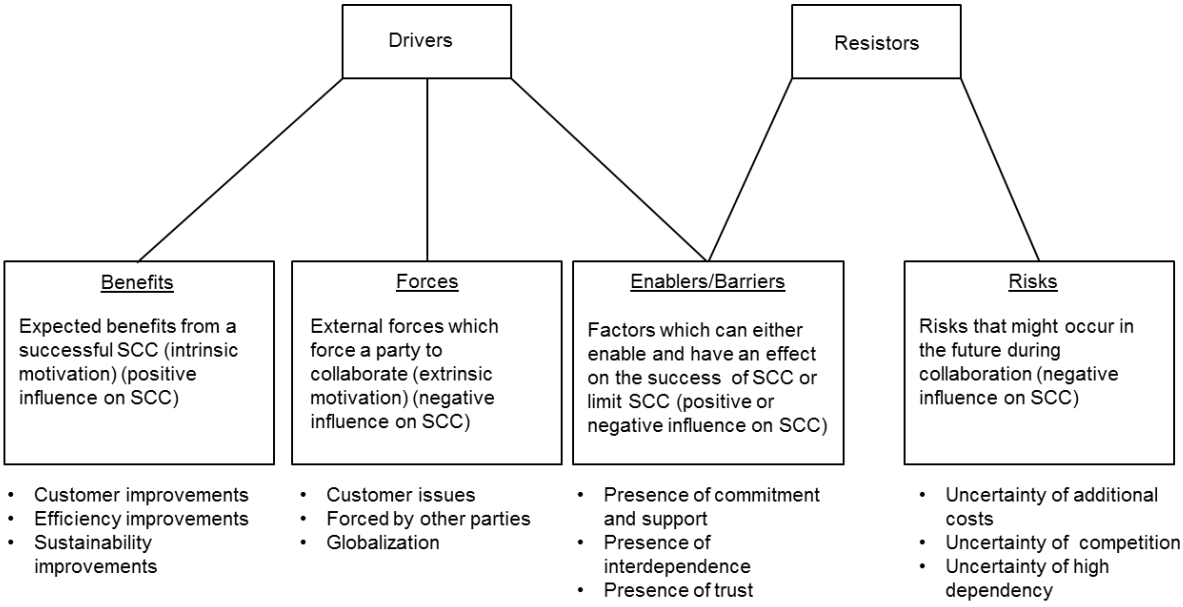

Figure1: The framework

Drawing on the above, it can only be concluded that the conceptual framework is complete in theory. The next step is to investigate whether the conceptual framework is also complete in practice.

3. Research Methodology

To test the completeness of the framework in practice, a case research approach is used. A qualitative research using individual semi-structured in-depth interviews is a common way to explore practice and collect data (Qu and Dumay, 2011; Yin, 2009). The population consisted of companies from the Dutch fast moving consumer goods (FMCG) industry. This industry has been selected because of the importance of SCC for this industry and the complexity of the SCCs. Referring to de Kok et al. (2015) "[t]he FMCG sector is core to the wealth and well-being of the developed countries". Nearly 20 % of the total ton kilometres transported in the EU are goods from the FMCG industry (de Kok et al., 2015). In contrast to prior research, not only dyadic relationships, but also collaborations involving three – e.g. manufacturer, LSP and retailer - or even more independent parties were included. With this it can be investigated whether in more complex relationships, which are common in practice, additional factors are relevant for the involved parties. To enhance the reliability of the research a study protocol has been developed to create transparency regarding the approach used, thereby, making research repeatable (Yin, 2009). It contains field procedures, such as used instruments (e.g. questionnaires) and data collection. The interviews were semi-structured and the questionnaire mainly consisted of open questions. Most of the questions aimed to identify the relevant drivers and resistors. One example is, that the interviewees were asked, what their motivation was to start a specific project. This question aimed to identify the intrinsic and extrinsic motivation to start SCCs. Thereby, the parties were free to mention more than one collaboration project in which they participated or in which they planned to participate but that did not start. An

interview guide was sent around one week before the interview to give the participants sufficient time for preparation. A report was made of each interview and was sent back to the interviewees for verification to confirm that the interpretations were consistent with respondents' interpretations and strengthens validity (Yin, 2009). After a detailed case study write-up for each case, the data were analysed using cross-case analysis. The key to a good cross-case comparison is looking at the data in many divergent ways. Eisenhardt (1989) discusses three cross-case tactics. One tactic is to select categories and then look for within-group similarities coupled with intergroup differences. Dimensions can be suggested by literature or can simply be chosen by the researcher. A second tactic is to group the cases and then list the similarities and differences between them. And, finally, data can be divided by data source. The first two approaches were used, because this enables an analysis of the elements as identified in literature as well as on new elements identified in practice and, thereby, enhance the probability that the findings, which may exist in the data, are captured. After comparing the drivers and resistors mentioned in the interviews with the general factors of the conceptual framework, the factors were analysed by category and by party. The sample consisted of the companies of the Dutch FMCG industry that were participating in a logistics competition in the Netherlands. Of the 26 participating parties, 20 accepted the interview request, which is equal to a response rate of 77 %. Seven manufacturers, six LSPs and seven retailers participated and the interviews were mainly conducted face to face. Nevertheless, due to time constraints three interviews could only be conducted via telephone. In total 20 different SCC projects were mentioned. Most of these projects were named by more than one interviewee. Therefore, differences and similarities of drivers and resistors identified from different perspectives for one specific project could be investigated.

4. Results

In this section the cross-case analysis is presented. The factors reported in the cases are included in the framework as either another example of existing general factors or as additional general factors. Results and further findings are discussed by category.

4.1 Benefits

Table 1 shows all benefits mentioned by each party - the LSP, the manufacturer (MA) and the retailer (RE) – and also specifies whether the factor was mentioned by a party who actually started the SCC (C) or not (NC). All mentioned benefits were identified as, sometimes new, examples of the general factors in the conceptual framework (see Appendix B "Allocation Benefits").

In total, the most often mentioned benefit is "cost reduction", which falls in the general factor "efficiency improvements". Cost reduction was mentioned as an intrinsic motivation factor for 14 collaboration projects. Half of it was mentioned by the LSPs. Moreover, by looking at all the other benefits of the LSPs, it is obvious, that the LSPs were mainly driven by efficiency improvement factors. The majority of the mentioned benefits are factors belonging to the general factor "efficiency improvements". The second most often mentioned benefit is sustainability improvement. Moreover, it has been observed that nearly half of the mentioned benefits were named by retailers.

Except of three factors, the benefits were mentioned by parties that actually started the SCC. Moreover, some parties also started SCC projects without any intrinsic motivation.

Table 1: Allocation of the benefit factors

General factors	Factors	LSP	MA	RE	C	NC
Customer improvements	Customer satisfaction	1	1		2	
Efficiency improvements	Cost reduction	7	3	4	13	1
	Time reduction	1		4	4	1
	Faster unloading process			1		1
	Efficiency improvement	2	1	3	6	
	Lower costs in inbound process			1	1	
	Lower contract costs with supplier because of time savings			1	1	
	Gain total benefit out of the collaboration			1	1	
	Surcharge reduction for customers for negotiating other time slots with retailer	1			1	
	Reduced incoming goods full time employees			1	1	
	Monetary issue			1	1	
	Quality issue			1	1	
	Optimal capacity planning and dock capacity through spread of arrival times of trucks			1	1	
Enhanced enablers	Stronger partnership	1			1	
	Enhancing relationship towards customer		1		1	
Image improvements	Image improvement		1		1	
	Professionalism		1		1	
Sustainability improvements	CO_2-reduction	1	2	3	6	
	Sustainability		1		1	
Technology improvements	Offers new possibilities/technologies			1	1	
	Using technology also for other customers	1			1	

4.2 Forces

Also for the forces all identified factors (see Table 2) could be assigned to already existing general factors (see Appendix B “Allocation Forces”).

In contrast to the intrinsic motivation, only a few extrinsic motivation factors were mentioned. For a few projects the parties mentioned that they were forced by other supply chain parties to start a specific project. The majority was forced by the retailers to start SCCs. Three LSPs and six manufacturers were forced by retailers to for example use specific software. Furthermore, one LSP was forced by a manufacturer to start a SCC.

All projects, where the retailer forced the LSP and/or the manufacturer to join the collaboration, started, although this was the only mentioned motivating factor for the parties to start the SCC project and next to it only resistors were named. In contrast to that, the SCC project, which was initiated by the manufacturer, did not start.

Table 2: Allocation of the force factors

General factors	Factors	LSP	MA	RE	C	NC
Forced by other parties	Forced by retailer	3	5		8	
	Demanded by manufacturer	1				1

4.3 Enablers and Barriers

In contrast to the other categories, not all identified factors for the category "enablers/barriers" could be assigned to existing general factors. Several interviewees mentioned that talking about money (costs and gains) in the first meeting leads to rough negotiations that have resulted, in some cases, in not starting the SCC. For this factor no academic evidence has been found and, hence, an additional general factor was added, "presence of neglecting money in the first meeting", if it is an

enabler, and "lack of neglecting money in the first meeting", otherwise. All other identified factors provide new examples for already existing general factors (see Appendix B “Allocation Enablers/Barriers”).

“Organizational compatibility” and “transparency” are the most often mentioned factors. Both factors seem to be relevant for the majority of the SCC projects. This is followed by the enablers “interdependence” (17 times mentioned) and “trust” (16 times mentioned). In contrast to the enablers, more variety exists in the barriers. High investments for starting a SCC and a lack of compatibility seem to be the most relevant barriers for the parties in practice. Moreover, exclusively retailers mentioned the lack of benefits and the lack of fair gain sharing as another important barrier. Further, a good relationship to the contact person and the neglection of money in the first meeting seem to be more important barriers for the retailers and the manufacturers. In total, the majority of the factors were either mentioned as an enabler for a specific SCC or as a barrier.

By looking at the difference between collaboration and non-collaboration factors, it has been observed that the barrier “upfront investments” was often mentioned as a barrier for SCCs which did not start in the end.

Table 3: Allocation of the enabler/barrier factors

General factors	Enablers/Barriers	Factors	LSP	MA	RE	C	NC
Presence of absence of barriers	Presence of absence of barriers	Compliance		1		1	
		No legal barriers	1			1	
	Lack of absence of barriers	Horizontal collaboration difficult		1		1	
		Legal barriers	2	1		3	
		Other projects have higher priorities			1	1	
Presence of absence of costs	Lack of absence of costs	High investments in technology	2		2	3	1
		Increased costs	2			2	
		Upfront investments	1	3	3	3	4
		Time windows lead to higher costs due to inflexibility	1			1	
Presence of commitment and support	Presence of commitment and support	Commitment	2	1	4	7	
Presence of communication	Presence of communication	Information sharing	1	1	2	4	
		Information technology	3	6	5	14	
	Lack of communication	Communication within triangular relationships is lacking, because the communication between LSP and retailer is not existing			2	2	
		Connecting different integrated device technology (IDT) systems is very difficult and complex	1			1	
		Insufficient communication at internal retailer side	1			1	
		Only old WMS available			1	1	
		Sharing confidential information within vertical SCC is very difficult	1			1	
		Very complex information and communication technology (ICT) system	1	1		2	
Presence of compatibility	Presence of compatibility	Common/clear goals	2			2	
		Holding end-customer central (common goal)	1			1	
		Organizational compatibility	5	7	6	18	
		Shared values		1		1	
		Strategic fit		1		1	

Table 3 (continued)

General factors	Enablers/Barriers	Factors	LSP	MA	RE	C	NC
Presence of compatibility	Lack of compatibility	It is not possible to give smaller supplier a fixed time window since they are delivering combined /small drop sizes			1	1	
		Limited number of LSPs that are able to transport chilled and fresh goods		1		1	
		Limited number of LSPs that are suitable for full truck load (FTL) consolidation			1	1	
		Limited number of manufacturers that are using the software	1			1	
		Limited number of suppliers and manufacturers are able to deliver with chain conveyer systems in trucks	1				1
		Non-aligned policies	1	1		2	
		Power of a party		1	1	2	
		Smaller manufacturers/LSPs are not able to fulfil required technological standards	1		2	3	
		Some retailers are not able to implement standards	1	1		2	
		Supplier has not the right certificates			1	1	
		Supplier is not willing to label with specific labels			1	1	
Presence of continuous improvement	Presence of continuous improvement	Continuous improvement			1	1	
Presence of contract	Presence of contract	Upfront agreements in form of contracts are important			1	1	
Presence of experience, learning and knowledge	Presence of experience, learning and knowledge	Step-by-step approach: it is important to begin with smaller collaboration projects, if small projects are successful you can take next step			1	1	
Presence of (fair) benefits	Presence of (fair) benefits	High chance of success			1	1	
		Mutual benefits		1		1	
	Lack of (fair) benefits	Adjustment of entire internal process		1		1	
		Difficulties in establishing a fair allocation of the benefits			2	2	
		Lack of mutual benefits/ profitability for either party		1		1	
		Less efficient tour planning	1			1	
		No usage of chain conveyer systems			1		1
		Reverse logistics/ loading of return goods has no priority - waste of time			1		1
		Some supplier still strives to deliver their own FTL with one order and not considered FTL with different orders			1	1	
		Use of software less efficient	1		1	2	
Presence of flexibility	Lack of flexibility	Limited usage of trucks with chain conveyer systems - less flexible	1				1
Presence of goodwill	Presence of goodwill	Goodwill			1	1	
Presence of interdependence	Presence of interdependence	Interdependence	5	6	6	17	
Presence of long-term relationship	Lack of long- term relationship	Short-term relationship		1		1	
Presence of neglecting money in the first meeting	Presence of neglecting money in the first meeting	Neglecting money in the first meeting	1	4	5	10	

Table 3 (continued)

General factors	Enablers/Barriers	Factors	LSP	MA	RE	C	NC
Presence of neglecting money in the first meeting	Lack of neglecting money in the first meeting	Fair gain sharing always discussion if money is involved	1			1	
		Speaking about gain sharing very complex	1	1		2	
Presence of partner contribution	Presence of partner contribution	Contribution of other parties	1			1	
Presence of resources	Lack of resources	A lot of work required for implementation	1			1	
		No capacity of manpower to start SCC			1	1	
		Not enough time and energy	1		2	2	1
Presence of right contact person	Presence of right contact person	Relation to contact person	1	4	6	11	
	Lack of right contact person	Commercial vs. logistics		1		1	
		SCM vs. commercial (different ways of thinking)		1	1	2	
		Wrong contact person			1	1	
Presence of time	Presence of time	Factor time: start the SCC to the right time			1	1	
Presence of transparency and openness	Presence of transparency and openness	Honesty	1			1	
		Openness		1	1	2	
		Open-minded			1	1	
		Transparency	6	5	7	18	
	Lack of transparency and openness	Lack of transparency		1		1	
Presence of trust	Presence of trust	Trust	4	5	7	16	
	Lack of trust	Lack of trust			1	1	
Presence of willingness to change	Presence of willingness to change	Willingness and drive to change		1		1	

4.4 Risks

The identified risks (Table 4) could all be assigned to already existing general factors as can be validated in Appendix B “Allocation Risks”.

Only a few risks were mentioned by the interviewed parties and the most often mentioned risk is dependency. The parties often stated that dependency combined with short-term contracts (which are common in this industry) results in high risks. Moreover, most of the risks were identified by retailers and only retailers mentioned risks belonging to the general factor “uncertainty of performance problems”.

All SCC projects, where risks were mentioned, also started in the end.

Table 4: Allocation of the risks factors

General factors	Factors	LSP	MA	RE	C	NC
Uncertainty of additional costs	Costs are the main risk		1		1	
	Additional costs related to coordination and controlling the collaborative relationship			1	1	
Uncertainty of change of key personnel	Risk, if one party involved terminates relation within the project		1	2	3	
Uncertainty of high dependency	Contract uncertainty; parties are mutually dependent		2	2	4	
	Dependency	2	2	2	6	
Uncertainty of losing transparency	Danger of commercial usage of confidential information	1			1	
	Uncertainty of losing transparency		1		1	
Uncertainty of performance problems	Data reliability			1	1	
	Quality performance problems			1	1	
	Uncertainty of outcome			1	1	
	10-15% error rates of incoming goods			1	1	

5. Discussion and Conclusions

In the following, first, the results of the cross-case analysis are discussed in detail. Next, the contribution to the SCM literature and implications to SCM practice are outlined. In the end limitations and future research areas are discussed.

5.1 Result Discussion

In total, it has been observed that the framework is complete for the categories “benefits”, “forces” and “risks”. Only the category “enablers/barriers” missed one general factor. In the Dutch FMCG industry supply chain actors perceive that it is difficult to talk about money (costs and gains) in the first meeting. The interviewees even mentioned that talking about money (costs and gains) lead to rough negotiations, which have resulted, in some cases, in not starting the SCC. This has not been mentioned in the academic literature yet. Many articles already discussed the problem with sharing the gain in such a way that everybody is satisfied (e.g. Cruijssen et al., 2007), but it has not been mentioned that this is especially a problem in the first meeting. After adding an additional general factor, which is called “presence of neglecting money in the first meeting”, if it is an enabler, and “lack of neglecting money in the first meeting”, if it is a barrier, the framework is complete for all categories.

5.1.1 Benefits

In the Dutch FMCG industry the main intrinsic motivation factor is to reduce the costs. This factor has been mentioned as an important factor for parties to start a SCC in literature as well. Cruijssen et al. (2007) identify cost reduction as an important motivation factor for parties to start a SCC in the transportation and logistics industry. The same holds for the construction and the chemical industry (Akintoye et al., 2000; Visser, 2010). Sustainable improvement issues are also important motivation factors to start a SCC. In this context, the dominant factor is CO_2-reduction. According to de Kok et al. (2015), in the FMCG industry the retailers demand high-frequency shipments to their distribution centers and the truck utilization efficiency is low. Therefore, it is reasonable that sustainability improvement, especially CO_2-reduction, is an often-named intrinsic motivation factor. Another interesting finding is that the LSPs in the FMCG industry were mainly driven by efficiency improvement factors; sustainability improvement seems to be less relevant for the LSPs. This is in line with the literature review from Cruijssen et al. (2007), where the LSP perspective is observed in the transportation and logistics sector. Further, it could be detected that the majority of the mentioned benefits were named by the retailers, which indicates that retailers are highly intrinsically

motivated. Finally, it has been identified that some parties also started a project without mentioning any benefits. In the majority of these cases, forces instead of benefits have been mentioned.

5.1.2 Forces

In the interviews exclusively manufacturers and LSPs mentioned extrinsic motivation factors to start SCCs. This confirms the assumption that retailers are highly intrinsically motivated. The finding contradicts with what has been identified by Walker et al. (2008). In their research, the authors identify important drivers and resistors for retailers and manufacturers for starting a green SCM initiative. In this context, the retailers were not exclusively intrinsically motivated, but also often forced to start the green collaboration. However, retailers in the FMCG industry seem to be exclusively intrinsically motivated. In addition, retailers are the most powerful party in the FMCG supply chain. They forced manufacturers and/or LSPs to start a specific project. This is in line with the research by Adolfsson and Solarz (2005). They investigate relationships between suppliers and a retailer in the Swedish FMCG industry. Adolfsson and Solarz (2005) outline that the retailer has a power position in the Swedish FMCG industry and that the suppliers are highly influenced by the retailers.

5.1.3 Enablers/Barriers

The most often mentioned enablers were “organisational compatibility” and “transparency” followed by the enablers “trust” and “interdependence”. In literature it is often mentioned that trust and commitment are the most important enablers for starting SCCs (e.g. Ahmad and Ullah, 2013). For the parties of the Dutch FMCG industry organisational compatibility and transparency seem to be more important. In contrast to the enablers, for the barriers a higher variety has been identified. This indicates that the barriers are more individual and, therefore, highly dependent on the party and the specific situation. For the parties of the Dutch FMCG industry one main barrier to start SCCs and in the end also the main reasons for not collaborating were the upfront investments. This is in line with prior research. Min et al. (2005) point out that financial resources have to be available before starting collaborations. Another very important barrier for the parties of the Dutch FMCG industry was the lack of compatibility. Again, this is in line with former literature. The majority of the papers discussing barriers to start a SCC also named lack of compatibility as a barrier. In total, it has been observed that the majority of the factors were either mentioned as an enabler or as a barrier for a SCC. However, a few parties also mentioned factors as enablers and barriers for a project. In these cases, the parties mentioned the general importance of an enabler to start a specific SCC. However, for the specific project the factor has been mentioned as a barrier. The majority of these factors can be assigned to the project, where the retailer forced parties to use specific software. In these cases, the manufacturers and LSPs outlined the general importance of organizational compatibility, but simultaneously mentioned the lack of organizational compatibility for this specific project.

5.1.4 Risks

In total, only a few risks have been mentioned by the participants. In literature also only a fairly limited number of papers discuss potential risks of SCCs. In total, only five papers (Cruijssen et al., 2007; Landeros et al., 1995; Maloni and Benton, 1997; Niederkofler, 1996; Visser, 2010) investigate risks for starting SCCs. Moreover, it has been identified that in all cases the SCC projects started, which might indicate that risks are not the main reason for rejecting a SCC project. The majority of the participants mentioned the high dependency as an important risk. This has been mentioned as an important risk for SCCs by Visser (2010) as well.

5.1.5 Further Findings

To evaluate a potential SCC, it is important for parties to be aware of all potential factors. However, it is not necessarily the case that all (general) factors, except from the category “enablers/barriers”, are

relevant in every SCC; it depends on the party, its industry and the type of SCC. Through the interviews differences between the parties but also between different types of SCCs have been identified. An example for a special factor for one type of SCC is the following. Four LSPs wanted to start a horizontal SCC. As a barrier "legal barriers" has been mentioned. This is a specific barrier for a horizontal SCC. The problem is that the European Commission competition law prohibits any agreements between the parties that are restrictive of competition like price agreements etc. (Cruijssen et al., 2007). Therefore, competition might be restricted if the parties involved in the horizontal collaboration exceed together a certain market share. According to the European Commission (2012) the current rule is that the parties are not allowed to exceed a market share of 20 %. Referring to the literature, for example Cruijssen et al. (2007) also mention a special factor. They investigated a horizontal SCC in the transportation and logistics industry. In their paper, the authors identified "risk of losing clientele to competitors" as an important risk. This risk is relevant for LSPs in the transport and logistics industry when they are participating in a horizontal SCC. Moreover, it is possible that even a whole category is not relevant for a party. The findings showed that especially when parties are forced to collaborate it is often the case that the intrinsic motivation to start a SCC is absent.

5.2 Contribution to the SCM literature

Although prior research widely discussed potential drivers and resistors, until now a study including all drivers and resistors is missing. Moreover, some kind of incompleteness existed; factors mentioned in one paper for a specific category are not mentioned in other papers. In addition to that, in this research two kinds of ambiguity have been identified. The first kind of ambiguity is that some terms are used for different categories and that no unique term for the identified categories exists. The second kind of ambiguity is that factors are assigned to more than one category. In this paper, a structured framework with a consistent terminology and definitions has been developed, which enriches the SCM literature with an extensive specification of all potential drivers and resistors for starting SCCs. Moreover, in academic literature until now only dyadic relationships have been investigated. In contrast to that, the proposed framework has been tested in a complex environment where also three or more independent parties were involved in a SCC, which makes the framework complete for different types of collaborations.

5.3 Implications to SCM practice

Parties that consider starting a SCC will benefit from this study. The study supports parties to better evaluate the considered SCC and, thus, increase the probability that SCCs which cannot be successful won't start. The introduced framework provides a checklist containing all potential general factors of drivers and resistors, which have to be taken into consideration before starting a SCC. Moreover, through a clear distinction between the four different categories, consistent definitions and explanations of the influence of these categories on the SCC, the understanding of the different categories is increased. As stated in Section 1, one reason for the failure of SCCs might be the fact that factors are unknown to or misunderstood by the parties. The structured and complete framework prevents this. To identify all relevant drivers and resisters for the considered SCC, every party should evaluate all (general) factors of the four categories regarding their relevance. Based on the identified factors the decision to start the SCC can be made by evaluating whether the factors that have a positive influence on the relationship overweight the negative ones.

5.4 Limitations and future research

Despite the contributions this research made, there are some limitations that can be considered as areas for further research. In the study only a limited set of cases has been used and the sample of the study only consisted of parties from one industry in the Netherlands. Further research should include other geographical areas and/or a broader range of industries. As stated previously, the framework provides the first complete overview not only for dyadic relationships, but also for SCCs with more than two parties. Nevertheless, the sample size for each type of relationship was very small. To build a framework for a specific type of SCC, it is necessary to conduct more interviews with parties participating in this special kind of relationship. Furthermore, the framework should be tested in practice to discover whether it can actually close the gap between theory and practice. Therefore, it is useful to interview parties which already participated in a failed SCC to investigate whether the SCC would not have been started or failure would have been prevented if all parties involved would have taken into account all factors included in the framework. Finally, this study only investigated which drivers and resistors factors are relevant for parties to start a SCC, but the importance of the factor has not been quantified for the specific party and collaboration. Quantifying the factors for each party can be beneficial and should also be considered in further research.

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Appendix A

Complete Framework

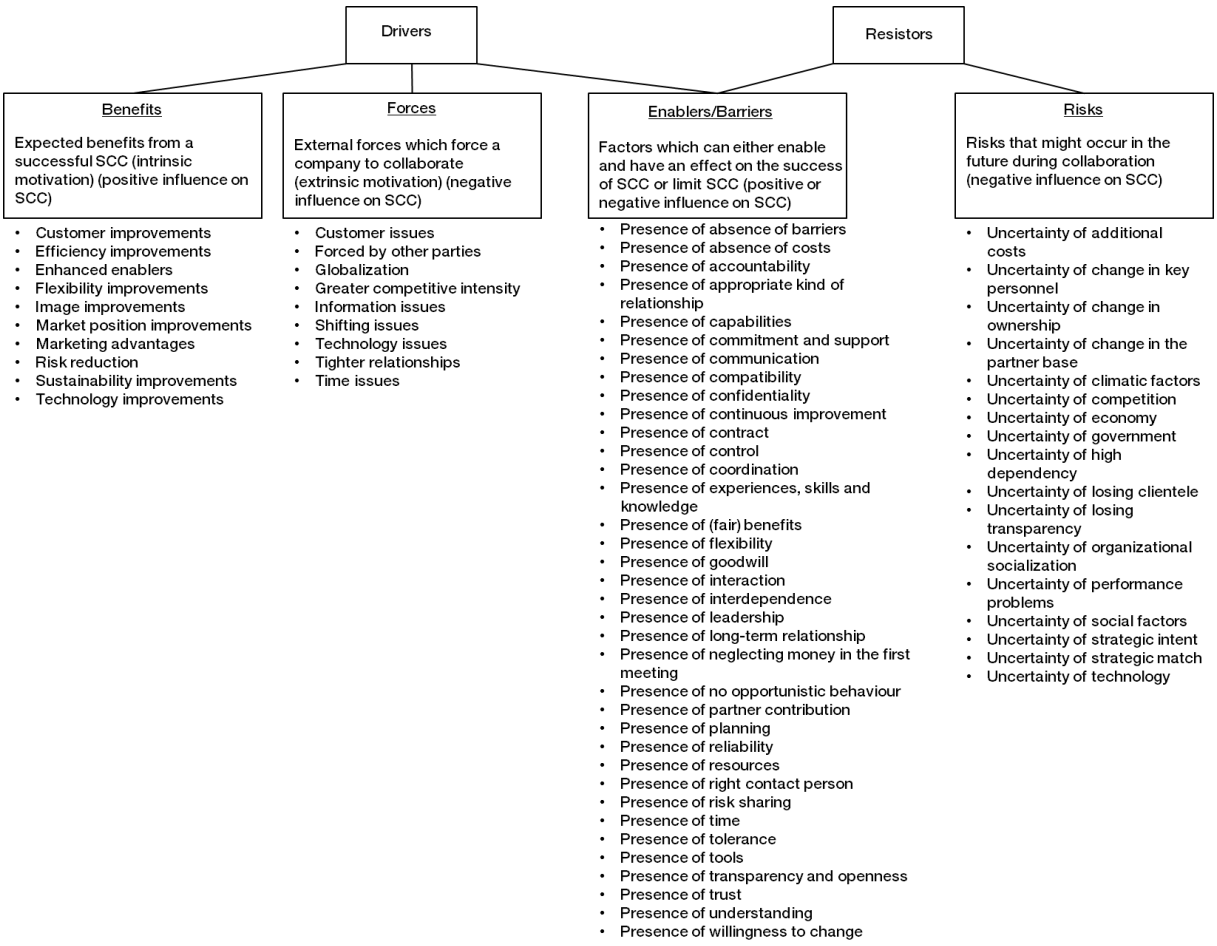

Figure 2: Complete framework

Appendix B

Allocation Benefits

Table 5: Allocation benefits

General Factor	Factor	Paper, Industry and Perspective
Customer improvements: Factors which indicate an improvement that has a direct effect on the customers like an increased customer service	Customer satisfaction	Fawcett et al. (2008a); Horvath (2001); Min and Zhou (2002); *[1], FMCG industry, manufacturer and LSP perspective
	Enhanced delivery performance	Fawcett et al. (2008b)
	Focus on core competencies	Visser (2010), chemical industry and logistics outsourcing, shipper perspective
	Improved customer service	Ahmad and Ullah (2013); Akintoye et al. (2000), construction industry, manufacturer perspective; Beach et al. (2005), construction industry, manufacturer perspective; Cruijssen et al. (2007), transport and logistics industry, LSP perspective; Horvath (2001); Lambert et al. (1996); Min et al. (2005); Visser (2010), logistics collaboration and outsourcing
	Increased customer responsiveness	Cruijssen et al. (2007), transport and logistics industry, LSP perspective; Fawcett et al. (2008a); Horvath (2001); Kim et al. (2010), fast moving global markets
	Increased customer retention	Horvath (2001)
	More consistent on time delivery	Fawcett et al. (2008a); Kim et al. (2010), fast moving global markets; Simatupang and Sridharan (2002)
	Reduced customer complaints	Kim et al. (2010), fast moving global markets
	Specialization	Cruijssen et al. (2007), transport and logistics industry, LSP perspective
Efficiency improvements: Factors which indicate improvements in how well expended resources are utilized e.g. cost reduction and time reduction	Accelerated product delivery times	Horvath (2001)
	Allowed financial resources to be concentrated on main stream businesses	Visser (2010), logistics outsourcing, shipper perspective
	Backorder/Stock-out	Kim et al. (2010), fast moving global markets; Simatupang and Sridharan (2002)
	Benefits to the clients, suppliers	Akintoye et al. (2000), construction industry, manufacturer perspective
	Best value, which can be drawn out of a project utilizing the specialist knowledge and expertise of supplier	Beach et al. (2005) construction industry, manufacturer perspective
	Better pricing	Min et al. (2005)
	Coordination of process	Maloni and Benton (1997)
	Closer link between demand/supply	Akintoye et al. (2000), construction industry, manufacturer perspective

[1] * refers to this paper

Table 5 (continued)

General Factor	Factor	Paper, Industry and Perspective
Efficiency improvements: Factors which indicate improvements in how well expended resources are utilized e.g. cost reduction and time reduction	Cost reduction	Akintoye et al. (2000), construction industry, manufacturer perspective; Cruijssen et al. (2007), transport and logistics industry, LSP perspective; Horvath (2001); Visser (2010), chemical industry, logistics collaboration and outsourcing, shipper perspective; Walker et al. (2008); *, FMCG industry, LSP, manufacturer and retailer perspective
	Decreased administrative and switching effort	Maloni and Benton (1997)
	Economies of scale in production	Ahmad and Ullah (2013)
	Efficiency improvement	Visser (2010), logistic outsourcing, shipper perspective, *, FMCG industry, LSP, manufacturer and retailer perspective
	Enhanced data capture	Maloni and Benton (1997)
	Faster speed to market	Cruijssen et al. (2007), transport and logistics industry, LSP perspective
	Faster unloading process	*, FMCG industry, retailer perspective
	Fill rate	Kim et al. (2010), fast moving global markets
	Firm productivity	Fawcett et al. (2008a)
	Gain total benefit out of the collaboration	*, FMCG industry, retailer perspective
	Gaining rapid access to the markets	Ahmad and Ullah (2013)
	Improved asset utilization	Ahmad and Ullah (2013); Fawcett et al. (2008a); Fawcett et al. (2008b); Lambert et al. (1996); Min and Zhou (2002)
	Improved firm performance	Richey et al. (2009); Walker et al. (2008)
	Improved operations	Visser (2010), logistics outsourcing, shipper perspective
	Improved process oriented layout	Maloni and Benton (1997)
	Improved quality	Maloni and Benton (1997); Walker et al. (2008)
	Improved quality assurance	Akintoye et al. (2000), construction industry, manufacturer perspective
	Improved sales	Kim et al. (2010), fast moving global markets; Min et al. (2005); Simatupang and Sridharan (2002)
	Increased cash-to-cash velocity	Fawcett et al. (2008b)
	Increased cost competitiveness	Fawcett et al. (2008b)
	Increased profitability	Akintoye et al. (2000), construction industry, manufacturer perspective
	Increased profits	Kim et al. (2010), fast moving global markets; Lambert et al. (1996)
	Investment related	Visser (2010), chemical industry and logistics outsourcing, shipper perspective
	Lower contract costs with supplier because of time saving	*, FMCG industry, retailer perspective
	Lower costs in inbound process	*, FMCG industry, retailer perspective
	More efficient product development efforts	Horvath (2001)

Table 5 (continued)

General Factor	Factor	Paper, Industry and Perspective
Efficiency improvements: Factors which indicate improvements in how well expended resources are utilized e.g. cost reduction and time reduction	Optimal planning and dock capacity through spread arrival times	*, FMCG industry, retailer perspective
	Outsourced area was major problem for the party	Visser (2010), logistics outsourcing, shipper perspective
	Overall improvement of distribution	Visser (2010), logistics outsourcing, shipper perspective
	Project success	Beach et al. (2005), construction industry, manufacturer perspective
	Quality issue	*, FMCG industry, retailer perspective
	Quantity discount	Maloni and Benton (1997)
	Reduced costs of used resources	Kim et al. (2010), fast moving global markets
	Reduced distribution costs	Horvath (2001); Kim et al. (2010), fast moving global markets
	Reduced handling costs	Lambert et al. (1996); Reniers et al. (2010), chemical industry, shipper perspective
	Reduced information costs	Lambert et al. (1996)
	Reduced inventory costs	Ahmad and Ullah (2013); Fawcett et al. (2008a); Horvath (2001); Kim et al. (2010), fast moving global markets; Min et al. (2005); Reniers et al. (2010), chemical industry, shipper perspective; Simatupang and Sridharan (2002)
	Reduced manufacturing costs	Horvath (2001); Kim et al. (2010), fast moving global markets
	Reduced manufacturing lead times	Kim et al. (2010), fast moving global markets
	Reduced overall product costs	Fawcett et al. (2008a); Lambert et al. (1996)
	Reduced overall purchasing costs	Fawcett et al. (2008a)
	Reduced packaging costs	Lambert et al. (1996)
	Reduced (product) development costs	Ahmad and Ullah (2013); Fawcett et al. (2008a); Reniers et al. (2010), chemical industry, shipper perspective
	Reduced product innovation lead time	Ahmad and Ullah (2013); Fawcett et al. (2008a); Fawcett et al. (2008b)
	Reduced transaction costs	Maloni and Benton (1997); Visser (2010), logistics collaboration, shipper perspective
	Reduced transportation costs	Fawcett et al. (2008a); Horvath (2001); Lambert et al. (1996); Reniers et al. (2010), chemical industry, shipper perspective
	Reduced warehousing costs	Horvath (2001)
	Reducing bureaucracy and paperwork	Akintoye et al. (2000), construction industry, manufacturer perspective
	Reducing incoming goods full time employees	*, FMCG industry, retailer perspective
	Reducing lost sales	Simatupang and Sridharan (2002)
	Reducing markdowns	Simatupang and Sridharan (2002)
	Reducing obsolete inventory	Simatupang and Sridharan (2002)

Table 5 (continued)

General Factor	Factor	Paper, Industry and Perspective
Efficiency improvements: Factors which indicate improvements in how well expended resources are utilized e.g. cost reduction and time reduction	Return on investment (ROI)	Kim et al. (2010), fast moving global markets; Min et al. (2005); Min and Zhou (2002); Reniers et al. (2010), chemical industry, shipper perspective; Simatupang and Sridharan (2002)
	Set-up time reduction	Maloni and Benton (1997)
	Shipping errors	Kim et al. (2010), fast moving global markets
	Shorter lead times	Min et al. (2005); Reniers et al. (2010), chemical industry, shipper perspective
	Shorter order cycles	Fawcett et al. (2008b)
	Shorter order fulfilment lead times	Fawcett et al. (2008a)
	Superior quality	Fawcett et al. (2008b)
	Streamlining supply chain process	Min et al. (2005)
	Surcharge reduction for customers for negotiating other time slots with retailer	*, FMCG industry, LSP perspective
	Time reduction	*, FMCG industry, LSP and retailer perspective
Enhanced enablers: Factors which indicate an improvement in the enablers through collaboration	Access to missing knowledge	Visser (2010), logistics collaboration, shipper perspective
	Enhanced conflict resolution	Maloni and Benton (1997)
	Enhancing relationship towards customer	*, FMCG industry, manufacturer perspective
	Improved expertise	Visser (2010), logistics outsourcing, shipper perspective
	Learning and internationalization of tacit, collective and embedded knowledge and skills	Cruijssen et al. (2007), transport and logistics industry, LSP perspective
	Mutuality beneficial and synergistic	Min et al. (2005)
	Mutual learning	Beach et al. (2005), construction industry, manufacturer perspective
	Mutual rewards and benefits	Beach et al. (2005), construction industry, manufacturer perspective
	Skill enhancement	Ahmad and Ullah (2013); Cruijssen et al. (2007), transport and logistics industry, LSP perspective
	Strong partnership	*, FMCG industry, manufacturer perspective
	Superior channel relationship	Fawcett et al. (2008b)
Flexibility improvements: Factors which indicate improvements in every kind of flexibility through collaboration	Ability to handle unexpected events	Fawcett et al. (2008a)
	Flexible customer response	Fawcett et al. (2008b)
	Information system flexibility	Kim et al. (2010), fast moving global markets
	Logistics flexibility	Kim et al. (2010), fast moving global markets
	Market flexibility	Horvath (2001); Kim et al. (2010), fast moving global markets
	Operational flexibility	Visser (2010), logistics outsourcing and chemical industry, shipper perspective
	Organizational flexibility	Kim et al. (2010), fast moving global markets
	Provide more flexible systems	Visser (2010), logistics outsourcing, shipper perspective

Table 5 (continued)

General Factor	Factor	Paper, Industry and Perspective
Flexibility improvements: Factors which indicate improvements in every kind of flexibility through collaboration	Strategic flexibility	Visser (2010), logistics outsourcing, shipper perspective
	Supply flexibility	Kim et al. (2010), fast moving global markets
Image improvements: Factors which indicate improvements in the reputation of a party	Enhancing public image	Cruijssen et al. (2007), transport and logistics industry, LSP perspective
	Image improvements	*, FMCG, manufacturer perspective
	Potential for receiving publicity	Walker et al. (2008)
	Professionalism	*, FMCG, manufacturer perspective
Market position improvements: Factors which indicate improvements in the ranking of a brand, product or party in terms of its sales volume relative to the sales volume of its competitors in the same market or industry	Access into new markets	Cruijssen et al. (2007), transport and logistics industry, LSP perspective; Fawcett et al. (2008a); Visser (2010), logistics collaboration, shipper perspective
	Increase in market share	Ahmad and Ullah (2013), Min et al. (2005), Simatupang and Sridharan (2002)
	New product development	Cruijssen et al. (2007), transport and logistics industry, LSP perspective; Min et al. (2005)
	Product quality improvements	Ahmad and Ullah (2013); Fawcett et al. (2008a)
	Protecting market share	Cruijssen et al. (2007), transport and logistics industry, LSP perspective
	Serving larger customers	Cruijssen et al. (2007), transport and logistics industry, LSP perspective
	Unique products and services	Fawcett et al. (2008b)
Marketing advantages: Factors which indicate improvements in marketing activities	Marketing advantages	Lambert et al. (1996)
	Forecast accuracy throughout the entire supply chain	Fawcett et al. (2008b)
Risk reduction: Factors which indicate a reduction of every kind of risk	Decreased risk from externalities	Maloni and Benton (1997)
	Decreased risk in product development failure	Ahmad and Ullah (2013)
	Environmental risk minimization	Walker et al. (2008), retailer perspective
	Less risk of opportunism	Maloni and Benton (1997)
	Reduced risk for customer criticism	Walker et al. (2008)
	Reduced risk of information failure	Min and Zhou (2002)
	Risk reduction	Visser (2010), logistics collaboration, shipper perspective
Sustainability improvements: Factors which indicate improvements in e. g. the environmental sustainability	CO_2-reduction	*, FMCG industry, manufacturer, LSP and retailer perspective
	Environmental performance improvements	Walker et al. (2008)
	Minimizing waste and pollution	Walker et al. (2008)
	Regeneration of local areas	Walker et al. (2008)
	Sustainability	*, FMCG industry, manufacturer perspective
Technology improvements: Factors which indicate improvements in every kind of technology	Access superior technology	Cruijssen et al. (2007), transport and logistics industry, LSP perspective
	Developing technical standards	Cruijssen et al. (2007), transport and logistics industry, LSP perspective
	Offers new possibilities/ technologies	*, FMCG industry, retailer perspective
	Technology transfers	Min and Zhou (2002)
	Using technology also for other customers	*, FMCG industry, LSP perspective

Allocation Forces

Table 6: Allocation forces

General Factor	Factor	Paper, Industry and Perspective
Customer issues: Factors which indicate that the force is based on markets and customers' demands	Customer demand becomes less and less predictable	de Leeuw and Fransoo (2009); Richey et al. (2009)
	Customer demand products consistently delivered faster and more reliable	Richey et al. (2009)
	Fast changing market demands	Richey et al. (2009)
	Greater supply uncertainty	de Leeuw and Fransoo (2009)
	More demanding customers	Fawcett et al. (2008a); Fawcett et al. (2008b)
Forced by other parties: Factors which indicate that a party is forced by another party of the supply chain and/or the surrounding of a party	Champions values for green SCM	Walker et al. (2008)
	Demanded by customers	Walker et al. (2008), retailer perspective
	Demanded by manufacturer	*, FMCG industry, LSP perspective
	Forced by retailer	*, FMCG industry, manufacturer and LSP perspective
	Legislative and regulatory compliance	Walker et al. (2008)
	Marketing pressure	Walker et al. (2008)
	Organizational values for green SCM	Walker et al. (2008)
	Owner Values for green SCM	Walker et al. (2008)
	Power	Richey et al. (2009)
	Pressure by environmental advocacy groups	Walker et al. (2008)
	Pressure from investors	Walker et al. (2008)
	Proactive action pre-regulation	Walker et al. (2008)
	Public pressure	Walker et al. (2008)
	Regulatory compliance	Walker et al. (2008), retailer perspective
	Stakeholder can encourage environmental strategy	Walker et al. (2008)
Globalization: Factors which indicate that the party is forced due to worldwide movements towards economic, financial, trade and communication integration	Economic globalization	Fawcett et al. (2008a); Fawcett et al. (2008b)
	Shift to supply chain-based business models	Fawcett et al. (2008b)
Greater competitive intensity: Factors which indicate that the force is based on competitiveness issues	Greater competitive intensity	Fawcett et al. (2008a); Fawcett et al. (2008b)
Information issues: Factors which indicate that the force is based on information issues	Need for better information	Fawcett et al. (2008a)
	Information revolution	Fawcett et al. (2008b)
	Increased financial pressure	Fawcett et al. (2008b)
	Pressure for lower prices	Walker et al. (2008)
Shifting issues: Factors which indicate that the force is based on changes in persons, configurations or focusses	Shifting channel power	Fawcett et al. (2008a); Fawcett et al. (2008b)
	Shifting competitive focus	Fawcett et al. (2008a)
Technology issues: Factors which indicate that the force is based on technology issues	New information technology	Fawcett et al. (2008a)

Table 6 (continued)

General Factor	Factor	Paper, Industry and Perspective
Tighter relationships: Factors which indicate that the force is based on changes in relationships	Merge and acquisition activities	Fawcett et al. (2008a); Fawcett et al. (2008b)
	Tighter alliance relationships	Fawcett et al. (2008a)
Time issues: Factors which indicate that the force is based on time issues	Compressed product cycles	Fawcett et al. (2008a); Richey et al. (2009)
	Compressed technology cycles	Fawcett et al. (2008b)

Allocation Enablers/Barriers

Table 7: Allocation enablers/barriers

General Factor	Enablers/Barriers	Factor	Paper, Industry and Perspective
Presence of absence of barriers: Factors which indicate the presence or absence of legal, industrial or organizational specific barriers	Presence of absence of barriers	Compliance	*, FMCG industry, manufacturer perspective
		No legal barriers	*, FMCG industry, LSP perspective
		Overcoming legal and regulatory barriers	Cruijssen et al. (2007), transport and logistics industry, LSP perspective
		Overcoming procedural and structural barriers	Maloni and Benton (1997)
		Overcoming social and attitudinal barriers	Maloni and Benton (1997)
		PR exercise as greenwash (lack of legitimacy)	Walker et al. (2008)
	Lack of absence of barriers	Clinical preferences – not too much focus on environmental improvements	Walker et al. (2008), retailer perspective
		Horizontal collaboration difficult	*, FMCG industry, manufacturer perspective
		Industry specific barriers	Walker et al. (2008), retailer perspective
		Legal barriers	*, FMCG industry, LSP and manufacturer perspective
		Local nature of the project	Walker et al. (2008), retailer perspective
		Organizational boundaries	Akintoye et al. (2000), construction industry, manufacturer perspective; Fawcett et al. (2008a)
		Organization culture barriers	Walker et al. (2008), retailer perspective
		Other projects have higher priorities	*, FMCG industry, retailer perspective
		Procurement legislation – competing procurement priorities (patient safety before environmental improvement)	Walker et al. (2008), retailer perspective
		Scale of supply chain	Walker et al. (2008), retailer perspective
		When parties are in a horizontal collaboration it can be hard to distinguish oneself towards the other parties	Cruijssen et al. (2007), transport and logistics industry, LSP perspective
Presence of absence of costs: Factors which indicate a change or not in the costs	Lack of absence of costs	Financial investments	Lambert et al. (1996); Maloni and Benton (1997)
		High coordination costs due to differences in operating procedures	Cruijssen et al. (2007), transport and logistics industry, LSP perspective
		High investments in technology	Cruijssen et al. (2007), transport and logistics industry, LSP perspective; *, FMCG industry, LSP and retailer perspective
		Increased costs	Walker et al. (2008), retailer perspective; *, FMCG industry, manufacturer perspective

Table 7 (continued)

General Factor	Enablers/Barriers	Factor	Paper, Industry and Perspective
Presence of absence of costs: Factors which indicate a change or not in the costs	Lack of absence of costs	Process poorly appraised in terms of costs	Fawcett et al. (2008a)
		Upfront investments	Cruijssen et al. (2007), transport and logistics industry, LSP perspective; Min et al. (2005); *, FMCG industry, LSP, manufacturer and retailer perspective
		Sunk costs	Visser (2010), logistics outsourcing, shipper perspective
		Switching costs	Visser (2010), logistics collaboration and outsourcing, shipper perspective
		Time windows lead to higher costs due to inflexibility	*, FMCG industry, LSP perspective
		Transaction costs	Visser (2010), logistics collaboration and outsourcing, shipper perspective
Presence of accountability: Factors which indicates the obligation or not of a person or a party for something	Presence of accountability	Clarity of accountability	Riggin et al. (1992)
Presence of appropriate kind of relationship: Factors which indicate the choice of the right type of relationship	Presence of appropriate kind of relationship	Define an appropriate type of relationship to establish with specific supply chain members	Fawcett et al. (2008b)
		Scope	Lambert et al. (1996)
Presence of capabilities: Factors which indicate the availability or the lack of an ability of an entity	Presence of capabilities	Ability to meet expectation	Cao and Zhang (2011)
		High-level service capabilities	Horvath (2001)
		Large, flexible, multimedia data storage capabilities	Horvath (2001)
		Partner capabilities	Kim et al. (2010), fast moving global markets; Maloni and Benton (1997); Visser (2010), chemical industry, shipper perspective
		Sophisticated security capabilities	Horvath (2001)

Table 7 (continued)

General Factor	Enablers/Barriers	Factor	Paper, Industry and Perspective
Presence of commitment and support: Factors which indicate the commitment and/ or the support of party members or people of the surrounding	Presence of commitment and support	Commitment	Ahmad and Ullah (2013), manufacturer perspective; Barrat (2004); Cruijssen et al. (2007), transport and logistics industry, LSP perspective; Fawcett et al. (2008b); Heikkilä (2002), telecommunication industry; Kim et al. (2010), fast moving global market; Lambert et al. (1996); Maheshwari et al. (2006); Mohr and Spekman (1994), computer industry, dealer perspective; Perry and Sohal (2001), textiles, clothes and foot wear industry; Ryu et al. (2009); Visser (2010), chemical industry and logistics collaboration, shipper perspective; *, FMCG industry, LSP, manufacturer and retailer perspective
		Internal stakeholder support	Reniers et al. (2010), chemical industry, shipper perspective
		Intra-organizational support	Barrat (2004)
		Top management commitment	Anbanandam et al. (2011), apparel industry, retailer and manufacturer perspective; Fawcett et al. (2008b)
		Top management support	Akintoye et al. (2000), construction industry, manufacturer perspective; Brinkerhoff (2002); Ellram (1995), buyer perspective; Fawcett et al. (2008b); Maloni and Benton (1997); Niderkofler (1991)
		Mutual commitment	Ellram (1995), buyer perspective
	Lack of commitment and support	Homogeneity: internal support and commitment of all stakeholders	Visser (2010), logistics collaboration, shipper perspective
		Inhibit innovativeness	Walker et al. (2008)
		Lack of support from within the larger firm	Niderkofler (1991)

Table 7 (continued)

General Factor	Enablers/Barriers	Factor	Paper, Industry and Perspective
Presence of commitment and support: Factors which indicate the commitment and/ or the support of party members or people of the surrounding	Lack of commitment and support	Lack of (top) management commitment	Akintoye et al. (2000), construction industry, manufacturer perspective; Visser (2010), logistics collaboration and outsourcing, shipper perspective; Walker et al. (2008)
		Lack of top management support	Fawcett et al. (2008b); Lambert et al. (1999), manufacturer and third party provider perspective
		Low commitment of partners	Akintoye et al. (2000), construction industry, manufacturer perspective
Presence of communication: Factors which indicate formal and informal information sharing with the partners in a timely and quality manner or not; it also includes the way of how information are shared or not	Presence of communication	Access to environmental information	Walker et al. (2008), retailer perspective
		Communication	Beach et al. (2005), construction industry, manufacturer perspective; Cao and Zhang (2011); Ellram (1995), buyer perspective; Fawcett et al. (2008a); Kim et al. (2010), fast moving global markets; Lambert et al. (1996); Maloni and Benton (1997); Perry and Sohal (2001), textiles, clothing and foot wear industry; Ryu et al. (2009)
		Communication behaviour - participation	Heikkilä (2002), telecommunication industry; Mohr and Spekman (1994), computer industry, dealer perspective
		Communication quality	Ahmad and Ullah (2013), manufacturer perspective; Heikkilä (2002), telecommunication industry; Mohr and Spekman (1994), computer industry, dealer perspective
		Electronic data interchange (EDI) linkage	Fawcett et al. (2008a)
		ERP/SCM software	Fawcett et al. (2008a)
		Free flow of information	Akintoye et al. (2000), construction industry, manufacturer perspective; Min et al. (2005)
		Heightened communication	Min et al. (2005)

Table 7 (continued)

General Factor	Enablers/Barriers	Factor	Paper, Industry and Perspective
Presence of communication: Factors which indicate formal and informal information sharing with the partners in a timely and quality manner or not; it also includes the way of how information are shared or not	Presence of communication	Information sharing	Ahmad and Ullah (2013); manufacturer perspective; Anbanandam et al. (2011), apparel retail industry, manufacturer and retailer perspective; Barrat (2004); Cao and Zhang (2011); Cruijssen et al. (2007), transport and logistics industry, LSP perspective; Ellram (1995), buyer perspective; Fawcett et al. (2008a); Fawcett et al. (2008b); Heikkilä (2002), telecommunication industry; Mohr and Spekman (1994), computer industry, dealer perspective; Simatupang and Sridharan (2002); *, FMCG industry, LSP, manufacturer and retailer perspective
		Information technology	Cruijssen et al. (2007), transport and logistics industry, LSP perspective; Fawcett et al. (2008b); *, FMCG industry, LSP, manufacturer and retailer perspective
		Integrated information system	Akintoye et al. (2000), construction industry, manufacturer perspective
		Intense and open communication	Niderkofler (1991)
		Intelligence gathering and analysis	Horvath (2001)
		Real time communication	Min and Zhou (2002)
		Revenue-tracking system	Fawcett et al. (2008b)
		Social exchange	Maloni and Benton (1997)
		Supplier is informed of and involved in changes and new product design	Ellram (1995), buyer perspective
		SCC exchange	Horvath (2001)
		Technology	Ahmad and Ullah (2013), manufacturer perspective; Barrat (2004); Boddy et al. (2000)
	Lack of communication	Availability, accessibility and validity of data	Riggin et al. (1992)
		Communication within triangular relationships is lacking, because the communication between LSP and retailer is not existing	*, FMCG industry, retailer perspective
		Connecting different IDT systems is very difficult and complex	*, FMCG industry, LSP and manufacturer perspective

Table 7 (continued)

General Factor	Enablers/Barriers	Factor	Paper, Industry and Perspective
Presence of communication: Factors which indicate formal and informal information sharing with the partners in a timely and quality manner or not; it also includes the way of how information are shared or not	Lack of communication	Insufficient communication at internal retailer side	*, FMCG industry, LSP perspective
		Lack of appropriate information technology	Akintoye et al. (2000), construction industry, manufacturer perspective; Fawcett et al. (2008a)
		Lack of information sharing	Fawcett et al. (2008a); Fawcett et al. (2008b); Lambert et al. (1999), manufacturer and third party logistics perspective; Walker et al. (2008), retailer perspective
		No implementation issues addressed during negotiation process	Niderkofler (1991)
		Only old WMS available	*, FMCG industry, retailer perspective
		Sharing confidential information within vertical SCC is very difficult	*, FMCG industry, retailer perspective
		Very complex ICT system	*, FMCG industry, LSP perspective
Presence of compatibility: Factors which indicate complementarities or not between the parties in terms of e.g. goals, culture, objective and operating philosophy	Presence of compatibility	Business process compatibility	Boddy et al. (2000)
		Common/ clear expectation	Cruijssen et al. (2007), transport and logistics industry, LSP perspective
		Common/ clear goals	Brinkerhoff (2002); Cao and Zhang (2011); Fawcett et al. (2008a); *, FMCG industry, LSP perspective; Maloni and Benton (1997)
		Common interests	Akintoye et al. (2000), construction industry, manufacturer perspective; Cruijssen et al. (2007), transport and logistics industry, LSP perspective
		Common operating procedures	Fawcett et al. (2008a)
		Common vision	Beach et al. (2005), construction industry, manufacturer perspective; Fawcett et al. (2008b)
		Compatibility in the structure	Boddy et al. (2000)
		Complementary goods and services	Cruijssen et al. (2007), transport and logistics industry, LSP perspective
		Corporate compatibility	Lambert et al. (1996)
		Cross-functional collaboration	Fawcett et al. (2008a)

Table 7 (continued)

General Factor	Enablers/Barriers	Factor	Paper, Industry and Perspective
Presence of compatibility: Factors which indicate complementarities or not between the parties in terms of e.g. goals, culture, objective and operating philosophy	Presence of compatibility	Cultural compatibility/ fit	Boddy et al. (2000); Fuller and Vassie (2002); Maheshwari et al. (2006); Maloni and Benton (1997); Reniers et al. (2010), chemical industry, shipper perspective; Visser (2010), chemical industry, shipper perspective
		Decision synchronization	Cao and Zhang (2011); Simatupang and Sridharan (2002)
		Exclusivity	Lambert et al. (1996)
		Financial compatibility	Visser (2010), chemical industry, shipper perspective
		Fit in human aspects	Maheshwari et al. (2006)
		Holding end-customer central (common goal)	*, FMCG industry, LSP perspective
		Incentive alignment	Cao and Zhang (2011); Simatupang and Sridharan (2002)
		Integrity and corporative culture	Cruijssen et al. (2007), transport and logistics industry, LSP perspective
		Internal alignment	Min et al. (2005)
		Level of being supplementary/complementary	Reniers et al. (2010), chemical industry, shipper perspective
		Management compatibility	Lambert et al. (1996); Maloni and Benton (1997)
		Objective alignment	Beach et al. (2005), construction industry, manufacturer perspective; Fawcett et al. (2008b)
		Operational compatibility	Niderkofler (1991); Ryu et al. (2009)
		Organizational compatibility	Ahmad and Ullah (2013), manufacturer perspective; Maheshwari et al. (2006); Min and Zhou (2002); *, FMCG industry, LSP, manufacturer and retailer perspective
		Partner compatibility	Brinkerhoff (2002); Cruijssen et al. (2007), transport and logistics industry, LSP perspective
		Partner should be value added	Ellram (1995), buyer perspective
		People – compatibility of the people who are working for the organizations	Boddy et al. (2000)

Table 7 (continued)

General Factor	Enablers/Barriers	Factor	Paper, Industry and Perspective
Presence of compatibility: Factors which indicate complementarities or not between the parties in terms of e.g. goals, culture, objective and operating philosophy	Presence of compatibility	Physical proximity	Cruijssen et al. (2007), transport and logistics industry, LSP perspective; Lambert et al. (1996); Maheshwari et al. (2006); Maloni and Benton (1997)
		Prior history of working together with the partner	Lambert et al. (1996)
		Select the right partner	Ellram (1995), buyer perspective; Fawcett et al. (2008b); Reniers et al. (2010), chemical industry, shipper perspective; Simatupang and Sridharan (2002)
		Shared competitors	Lambert et al. (1996)
		Shared customer	Cruijssen et al. (2007), transport and logistics industry, LSP perspective
		Shared high value end users	Lambert et al. (1996)
		Shared values	*, FMCG industry, manufacturer perspective
		Standardizing and integrating processes	Maheshwari et al. (2006)
		Strategic fit	Cruijssen et al. (2007), transport and logistics industry, LSP perspective; Niderkofler (1991); Ryu et al. (2009); *, FMCG industry, manufacturer perspective
		Symmetry: in terms of importance of each firm to the other's success, relative size, market share, financial strength, productivity, brand image, party reputation and level of technological satisfaction	Lambert et al. (1996)
		Vendor-managed inventory	Fawcett et al. (2008a)
	Lack of compatibility	Cultural differences	Lambert et al. (1999), manufacturer and third party logistics provider perspective, LSP perspective; Visser (2010), logistics outsourcing, shipper perspective
		Differences in interest	Cruijssen et al. (2007), transport and logistics industry, LSP perspective
		Differences in perceptions of reality used in joint decision making	Simatupang and Sridharan (2002)
		Different sectors have different challenges	Walker et al. (2008)

Table 7 (continued)

General Factor	Enablers/Barriers	Factor	Paper, Industry and Perspective
Presence of compatibility: Factors which indicate complementarities or not between the parties in terms of e.g. goals, culture, objective and operating philosophy	Lack of compatibility	Difficulty in finding the right partner to collaborate with	Cruijssen et al. (2007), transport and logistics industry, LSP perspective; Visser (2010), chemical industry and logistics collaboration, shipper perspective
		Disagreement over the domain of decisions	Cruijssen et al. (2007), transport and logistics industry, LSP perspective; Simatupang and Sridharan (2002)
		Firms' way of managing their businesses are widely different and clash	Niderkofler (1991)
		Focus on cost reduction at expense of green practices	Walker et al. (2008)
		Inconsistent operating goal	Fawcett et al. (2008a)
		It is not possible to give smaller supplier a fixed time window since they are delivering combined /small drop sizes	*, FMCG industry, retailer perspective
		Lack of compatible strategic direction	Lambert et al. (1999)
		Limited number of LSPs who are able to transport chilled and fresh goods	*, FMCG industry, manufacturer perspective
		Limited number of LSPs that are suitable for FTL consolidation	*, FMCG industry, retailer perspective
		Limited number of manufacturers that are using the software	*, FMCG industry, LSP perspective
		Limited number of suppliers and manufacturers that are able to deliver with chain conveyer systems in the truck	*, FMCG industry, LSP perspective
		No common goals	Lambert et al. (1999), manufacturer and third party logistics provider perspective
		Non-aligned policies	*, FMCG industry, LSP and manufacturer perspective
		No strategic fit	Fawcett et al. (2008b); Niderkofler (1991)
		Objective differences	Simatupang and Sridharan (2002)
		Operating differences	Fawcett et al. (2008b); Niderkofler (1991)

Table 7 (continued)

General Factor	Enablers/Barriers	Factor	Paper, Industry and Perspective
Presence of compatibility: Factors which indicate complementarities or not between the parties in terms of e.g. goals, culture, objective and operating philosophy	Lack of compatibility	Power of a party	Boddy et al. (2000); Cruijssen et al. (2007), transport and logistics industry, LSP perspective; Lambert et al. (1999), manufacturer and third party logistics provider perspective; Visser (2010), logistics collaboration; *, FMCG industry, manufacturer and retailer perspective
		Smaller manufacturers/LSPs are not able to fulfil required technological standards	*, FMCG industry, retailer and LSP perspective
		Small number of suppliers – only a small selection	Walker et al. (2008), retailer perspective
		Some retailers are not able to implement standards	*, FMCG industry, LSP and manufacturer perspective
		Supplier has not the right certificates	*, FMCG industry, retailer perspective
		Supplier is not willing to label with specific labels	*, FMCG industry, retailer perspective
		Unrealistic expectations	Lambert et al. (1999)
Presence of confidentiality: Factors which indicate the entrustment of proprietary information from one party to another or not	Presence of confidentiality	Confidentiality	Brinkerhoff (2002); Visser (2010), chemical industry, logistics collaboration, shipper perspective
	Lack of confidentiality	Lack of confidentiality	Visser (2010)
Presence of continuous improvement: Factors which indicate the continuous improvement or not	Presence of continuous improvement	Continuous evaluation/ improvement of performance	Beach et al. (2005), construction industry, manufacturer perspective
		Continuous improvement	*, FMCG industry, retailer perspective
	Lack of continuous improvement	Evaluating and monitoring problems	Visser (2010), logistics collaboration, shipper perspective
Presence of contract: Factors which indicate the presence or the lack of available agreements between the parties	Presence of contract	Clear guidelines	Fawcett et al. (2008a); Niderkofler (1991)
		Develop and document business principles and procedures and map back to value proposition	Fawcett et al. (2008a)
		Formalization	Min et al. (2005)
		Right contract style	Cruijssen et al. (2007), transport and logistics industry, LSP perspective; Lambert et al. (1996)
		Upfront agreements in form of contracts are important	*, FMCG industry, retailer perspective
	Lack of contract	Lack of alliance guidelines	Fawcett et al. (2008a)

Table 7 (continued)

General Factor	Enablers/Barriers	Factor	Paper, Industry and Perspective
Presence of control: Factors which indicate the presence and the lack of control	Presence of control	Joint operating controls	Lambert et al. (1996)
	Lack of control	Lack of control	Cruijssen et al. (2007), transport and logistics industry, LSP perspective; Lambert et al. (1999), manufacturer and third party logistics provider perspective
		Loss of control	Visser (2010), chemical industry, logistics collaboration and outsourcing, shipper perspective
Presence of coordination: Factors which indicate the synchronization and integration of something or not	Presence of coordination	Central coordination	Maloni and Benton (1997)
		Coordination	Kim et al. (2010), fast moving global markets; Mohr and Spekman (1994), computer industry, dealer perspective; Riggin et al. (1992)
		Process integration	Maloni and Benton (1997)
		Supply integration	Walker et al. (2008)
		System and channel integration	Horvath (2001)
Presence of experiences, skills and knowledge: Factors which indicate the presence or the lack of experiences, skills and knowledge of the parties	Presence of experiences, skills and knowledge	Cultural maturity	Fuller and Vassie (2002)
		Exchange of knowledge	Beach et al. (2005), construction industry, manufacturer perspective; Cao and Zhang (2011)
		External knowledge	Reniers et al. (2010), chemical industry, shipper perspective
		Former partnership and experience	Reniers et al. (2010), chemical industry, shipper perspective
		Frequency: occurrence frequency of a certain transaction	Visser (2010), logistics collaboration, shipper perspective
		Shared expertise	Fawcett et al. (2008a)
		Shared learning throughout the organization and the supply chain	Fawcett et al. (2008b)
		Skilful policy entrepreneur	Walker et al. (2008)
		Step-by-step approach: it is important to begin with smaller collaboration projects, if small projects are successful you can take next step	Niderkofler (1991); *, FMCG industry, retailer perspective
Presence of (fair) benefits: Factors which indicate the presence or the lack of benefits and whether the benefits are fair or not	Presence of (fair) benefits	Benefits sharing	Anbanandam et al. (2011), apparel industry, manufacturer and retailer perspective; Ellram (1995), buyer perspective; Fawcett et al. (2008a); Lambert et al. (1996)
		High chance of success	*, FMCG industry, retailer perspective

Table 7 (continued)

General Factor	Enablers/Barriers	Factor	Paper, Industry and Perspective
Presence of (fair) benefits: Factors which indicate the presence or the lack of benefits and whether the benefits are fair or not	Presence of (fair) benefits	Mutual benefits	Ellram (1995), buyer perspective; *, FMCG industry, manufacturer perspective
		Total costs and profit benefits	Maloni and Benton (1997)
	Lack of (fair) benefits	Accounting method limit green reporting	Walker et al. (2008)
		Adjustment of entire internal process	*, FMCG industry, manufacturer perspective
		Difficulties in determining the (monetary) benefit	Cruijssen et al. (2007), transport and logistics industry, LSP perspective
		Difficulties in establishing a fair allocation of the benefits	Visser (2010), logistics collaboration and outsourcing, shipper perspective; *, FMCG industry, retailer perspective
		Difficulty in establishing a fair allocation of shared workload	Cruijssen et al. (2007), transport and logistics industry, LSP perspective
		Difficulty in establishing fair allocation of the benefits	Cruijssen et al. (2007), transport and logistics industry, LSP perspective
		Lack of buyer awareness for green SCM	Walker et al. (2008)
		Lack of mutual benefits/ profitability for either party	Lambert et al. (1999), manufacturer and third party logistics provider perspective; *, FMCG industry, manufacturer perspective
		Less efficient tour planning	*, FMCG industry, LSP perspective
		Limited SCC: there is a doubt, that the other parties gain more benefits than the own party	*, FMCG industry, retailer perspective
		No usage of chain conveyer systems	*, FMCG industry, retailer perspective
		Reverse logistics/ loading of return goods has no priority - waste of time	*, FMCG industry, retailer perspective
		Some suppliers still strive to deliver their own FTL with one order and not considered FTL with different orders	*, FMCG industry, retailer perspective
		Strategic benefits unclear	Akintoye et al. (2000), construction industry, manufacturer perspective
		Unfairness in cost and pricing	Lambert et al. (1999), manufacturer and third party logistics provider perspective
		Use of software less efficient	*, FMCG industry, LSP perspective and retailer perspective

Table 7 (continued)

General Factor	Enablers/Barriers	Factor	Paper, Industry and Perspective
Presence of flexibility: Factors which indicate the presence or the lack of flexibility	Presence of flexibility	External flexibility	Reniers et al. (2010), chemical industry, shipper perspective
		Flexibility	Maloni and Benton (1997); Niderkofler (1991); Visser (2010), chemical industry, shipper perspective
	Lack of flexibility	Failure to respond to changes in corporate strategy/ market condition	Lambert et al. (1999), manufacturer and third party logistics provider perspective
		Limited usage of trucks with chain conveyer systems - less flexible	*, FMCG industry, LSP perspective
Presence of goodwill: Factors which indicate the presence or the lack of value of e. g. a party	Presence of goodwill	Goodwill	Maloni and Benton (1997); Niderkofler (1991); *, FMCG industry, retailer perspective
Presence of interaction: Factors which indicate the presence or a lack of interaction	Presence of interaction	Intensive interaction	Maloni and Benton (1997)
		Interpersonal interaction	Visser (2010), logistics collaboration, shipper perspective
		Senior management interaction	Fawcett et al. (2008b)
Presence of interdependence: Factors which indicate the presence or the lack of a reciprocal relation between independent parties	Presence of interdependence	Interdependence	Ahmad and Ullah (2013), manufacturer perspective; Cruijssen et al. (2007), transport and logistics industry, LSP perspective; Heikkilä (2002), telecommunication industry; Ryu et al. (2009); Simatupang and Sridharan (2002); *, FMCG industry, LSP, manufacturer and retailer perspective
		Mutual help	Cruijssen et al. (2007), transport and logistics industry, LSP perspective
		Mutuality	Barrat (2004); Lambert et al. (1999), manufacturer and third party logistics provider perspective
Presence of leadership: Factors which indicate the presence or the lack of leadership	Presence of leadership	Existence of partnership champion	Brinkerhoff (2002)
		Leadership	Ahmad and Ullah (2013), manufacturer perspective; Cruijssen et al. (2007), transport and logistics industry, LSP perspective; Kim et al. (2010), fast moving global markets; Perry and Sohal (2001), textiles, clothing and foot wear industry; Riggin et al. (1992)

Table 7 (continued)

General Factor	Enablers/Barriers	Factor	Paper, Industry and Perspective
Presence of long-term relationship: Factors which indicate the presence or the lack of a long-term relationships	Presence of long-term relationship	Duration of the relationship	Heikkilä (2002), telecommunication industry
		Long-term process	Akintoye et al. (2000), construction industry, manufacturer perspective
		Long-term relationship	Anbanandam et al. (2011), apparel retail industry, manufacturer and retailer perspective
	Lack of long-term relationship	Short-term relationship	Niderkofler (1991); *, FMCG industry, manufacturer perspective
Presence of neglecting money in the first meeting: Factors which indicate the need to do not talk about money in the first meeting	Presence of neglecting money in the first meeting	Neglecting money in the first meeting	*, FMCG industry, manufacturer, retailer and LSP perspective
	Lack of neglecting in the first meeting money	Fair gain sharing always discussion if money is involved	*, FMCG industry, LSP perspective
		Speaking about gain sharing very complex	*, FMCG industry, LSP and manufacturer perspective
Presence of no opportunistic behaviour: Factors which indicate the presence or absence of opportunistic behaviour	Lack of no opportunistic behaviour	Opportunistic behaviour	Cruijssen et al. (2007), transport and logistics industry, LSP perspective; Lambert et al. (1999), manufacturer and third party logistics provider perspective; Visser (2010), logistics outsourcing, shipper perspective
Presence of partner contribution: Factors which indicate the presence or the lack of doing something in order to achieve something with other people or to make it successful	Presence of partner contribution	Contribution of other parties	*, FMCG industry, LSP perspective
		Involvement of the parties	Beach et al. (2005), construction industry, manufacturer perspective; Walker et al. (2008)
		Partner contribution	Ellram (1995), buyer perspective
	Lack of partner contribution	No involvement of subsequent liaison manager	Niderkofler (1991)
Presence of planning: Factors which indicate the presence or the lack of deciding how to do something	Presence of planning	Joint business planning	Akintoye et al. (2000), construction industry, manufacturer perspective
		Planning	Lambert et al. (1996); Riggin et al. (1992)
	Lack of planning	Poor upfront planning	Lambert et al. (1996)
		Internal planning failure	Richey et al. (2009)
Presence of reliability: Factors which indicate whether something is working or not	Presence of reliability	Reliability of supply	Akintoye et al. (2000), construction industry, manufacturer perspective

Table 7 (continued)

General Factor	Enablers/Barriers	Factor	Paper, Industry and Perspective
Presence of resources: Factors which indicate the presence or the absence of a useful or valuable possession or quality of e. g. a party	Presence of resources	Availability and quality of nonfinancial resources	Riggin et al. (1992)
		External financial position	Reniers et al. (2010), chemical industry, shipper perspective
		External innovation potential	Reniers et al. (2010), chemical industry, shipper perspective
		Financial resources	Boddy et al. (2000); Maloni and Benton (1997); Riggin et al. (1992)
		Management of resources	Riggin et al. (1992)
		Manpower development	Akintoye et al. (2000), construction industry, manufacturer perspective
		Open, low-costs connectivity [smaller parties must be able to success a SCC without major investments in proprietary technology]	Horvath (2001)
		Resources	Barrat (2004)
		Shared resources	Cao and Zhang (2011)
	Lack of resources	A lot of work required for implementation	*, FMCG, industry, manufacturer perspective
		Lack of resources	Fawcett et al. (2008b); Niderkofler (1991); Walker et al. (2008), retailer perspective
		No capacity of manpower to start SCC	Maloni and Benton (1997); *, FMCG industry, retailer perspective
		Not enough time and energy	*, FMCG industry, LSP and retailer perspective
Presence of right contact person: Factors which indicate the presence of the absence of a compatible contact person	Presence of right contact person	Relation to contact person	*, FMCG industry, manufacturer, LSP and retailer perspective
	Lack of right contact person	Commercial vs. logistics	*, FMCG industry, manufacturer perspective
		Inappropriate liaison managers	Niderkofler (1991)
		SCM vs. commercial (different ways of thinking)	*, FMCG industry, manufacturer and retailer perspective
		Wrong contact person	*, FMCG industry, manufacturer perspective
Presence of risk sharing: Factors which indicate the presence or the lack of risk sharing	Presence of risk sharing	Risk sharing	Anbanandam et al. (2011), apparel industry, manufacturer and retailer perspective; Beach et al. (2005), construction industry, manufacturer perspective; Ellram (1995), buyer perspective; Fawcett et al. (2008a); Lambert et al. (1996)

Table 7 (continued)

General Factor	Enablers/Barriers	Factor	Paper, Industry and Perspective
Presence of risk sharing: Factors which indicate the presence or the lack of risk sharing	Lack of risk sharing	Lack of willingness to share risk	Fawcett et al. (2008a); Fawcett et al. (2008b)
Presence of time: Factors which indicate the presence or the absence of enough time	Presence of time	Factor time: start the SCC to the right time	*, FMCG industry, retailer perspective
		No time pressure at the negotiation process	Niderkofler (1991)
Presence of tolerance: Factors which indicate the presence or the absence of the willingness to accept behaviour and beliefs which are different from your own	Presence of tolerance	High degree of tolerance	Niderkofler (1991)
		Tolerance to share power	Brinkerhoff (2002)
Presence of tools: Factors which indicate the presence or the lack of e. g. methods and measurements which helps to start the SCC	Presence of tools	Conflict resolution techniques/ management	Beach et al. (2005), construction industry, manufacturer perspective; Brinkerhoff (2002); Cruijssen et al. (2007), transport and logistics industry, LSP perspective; Kim et al. (2010), fast moving global markets; Maloni and Benton (1997)
		Demonstrating the business case	Barrat (2004)
		Design a proactive supplier scorecard-based rating system to drive continuous improvement	Fawcett et al. (2008b)
		Dispute resolution planning	Beach et al. (2005), construction industry, manufacturer perspective
		Documentation	Maloni and Benton (1997)
		Education and training	Beach et al. (2005), construction industry, manufacturer perspective
		Establish a supplier development program via process improvement and product development teams	Fawcett et al. (2008b)
		Establish performance measurements, that leads to cooperation and create visibility	Fawcett et al. (2008b)
		Integrated teams	Beach et al. (2005), construction industry, manufacturer perspective
		Joint problem solving	Mohr and Spekman (1994), computer industry, dealer perspective
		More frequent meetings	Akintoye et al. (2000), construction industry, manufacturer perspective

Table 7 (continued)

General Factor	Enablers/Barriers	Factor	Paper, Industry and Perspective
Presence of tools: Factors which indicate the presence or the lack of e. g. methods and measurements which helps to start the SCC	Presence of tools	Partnering workshop	Beach et al. (2005), construction industry, manufacturer perspective
		Perception and needs analysis	Maloni and Benton (1997)
		Preparation of staff	Beach et al. (2005), construction industry, manufacturer perspective
		Right performance measurements	Maloni and Benton (1997)
		Supply chain mapping to develop a holistic view	Fawcett et al. (2008b)
		Supply chain training throughout the organization/supply chain	Fawcett et al. (2008a); Fawcett et al. (2008b)
		Use cross-functional teams	Fawcett et al. (2008a); Fawcett et al. (2008b)
		Use of activity based costing	Fawcett et al. (2008a); Min and Zhou (2002)
		Use of consistent measurements	Fawcett et al. (2008a)
		Use of supply chain measurements	Fawcett et al. (2008a)
		Use of total cost analysis	Fawcett et al. (2008a)
		Use supply chain teams	Fawcett et al. (2008a)
	Lack of tools	Cross functional conflicts and "turf"-protection	Fawcett et al. (2008b)
		External monitoring failure	Richey et al. (2009)
		Lack of training	Fawcett et al. (2008b); Walker et al. (2008)
		No measurements of customer demand	Fawcett et al. (2008a)
		No measurements of supply chain contribution	Fawcett et al. (2008a)
		Non-aligned measures	Fawcett et al. (2008a); Fawcett et al. (2008b); Richey et al. (2009)
		Partners' interests conflict	Niderkofler (1991)
Presence of transparency and openness: Factors which indicate the presence or the absence of transparency and openness	Presence of transparency and openness	Honesty	Barrat (2004); *, FMCG industry, LSP perspective
		Open book-policy and transparency	Cruijssen et al. (2007), transport and logistics industry, LSP perspective
		Open-minded	*, FMCG industry, retailer perspective
		Openness	Barrat (2004); Ellram (1995), buyer perspective; Reniers et al. (2010), chemical industry, shipper perspective; *, FMCG industry, retailer and manufacturer perspective
		Transparency	Visser (2010), logistics collaboration, shipper perspective*, FMCG industry, retailer, manufacturer and LSP perspective

Table 7 (continued)

General Factor	Enablers/Barriers	Factor	Paper, Industry and Perspective
Presence of transparency and openness: Factors which indicate the presence or the absence of transparency and openness	Lack of transparency and openness	Lack of transparency	*, FMCG industry, manufacturer perspective
Presence of trust: Factors which indicate the presence or the lack of partners perceive each other as credible and benevolent	Presence of trust	Trust	Ahmad and Ullah (2013), manufacturer perspective; Akintoye et al. (2000); Anbanandam et al. (2011), apparel industry, retailer and manufacturer perspective; Barrat (2004); Beach et al. (2005); Boddy et al. (2000); Cruijssen et al. (2007), transport and logistics industry, LSP perspective; Ellram (1995), buyer perspective; Fawcett et al. (2008b); Fuller and Vassie (2002), industry with safety culture; Heikkilä (2002); Kim et al. (2010), fast moving global markets; Lambert et al. (1996); Min et al. (2005); Min and Zhou (2002); Mohr and Spekman (1994), computer industry, dealer perspective; Niderkofler (1991); Perry and Sohal (2001), textiles, clothing and foot wear industry; Reniers et al. (2010), chemical industry, shipper perspective; Ryu et al. (2009); Visser (2010), chemical industry and logistics collaboration, shipper perspective; *, FMCG industry, LSP, manufacturer and retailer perspective
		Mutual trust	Ellram (1995), buyer perspective; Maheshwari et al. (2006)
	Lack of trust	Difficulty in finding a trusted party/ person to lead the collaboration	Cruijssen et al. (2007), transport and logistics industry, LSP perspective

Table 7 (continued)

General Factor	Enablers/Barriers	Factor	Paper, Industry and Perspective
Presence of trust: Factors which indicate the presence or the lack of partners perceive each other as credible and benevolent	Lack of trust	Lack of trust	Fawcett et al. (2008b); Lambert et al. (1999); Visser (2010), chemical industry, logistics collaboration and outsourcing, shipper perspective; *, FMCG industry, retailer perspective
Presence of understanding: Factors which indicate that the partners understand each other and the concept	Lack of understanding	Lack of understanding of how to incorporate green into buying	Walker et al. (2008)
		Poor understanding of the concept	Akintoye et al. (2000), construction industry, manufacturer perspective
		Understanding of the customer situation and need	Heikkilä (2002), telecommunication industry
		Understanding of the partner's resources and interests	Niderkofler (1991)
Presence of willingness to change: Factors which indicate the presence or the absence of inertia	Presence of willingness to change	Adaptability to change and innovativeness	Maheshwari et al. (2006)
		External willingness to change	Reniers et al. (2010), chemical industry, shipper perspective
		Need for change should be visible – even palpable	Fawcett et al. (2008b)
		Need for partnership must be identified	Ellram (1995), buyer perspective; Simatupang and Sridharan (2002)
		Relationship orientation	Barrat (2004); Min et al. (2005)
		Willingness and drive to change	*, FMCG industry, manufacturer perspective
	Lack of willingness to change	Inertia	Fawcett et al. (2008b); Simatupang and Sridharan (2002); Walker et al. (2008), retailer perspective
		Lack of motivation towards integration	Richey et al. (2009)

Allocation Risks

Table 8: Allocation Risks

General Factor	Factor	Paper, Industry, Perspective
Uncertainty of additional costs: Factors which indicate an uncertainty if additional costs will occur in the future	Additional costs related to coordination and controlling the collaborative relationship	Visser (2010), logistics outsourcing, shipper perspective; *, FMCG industry, retailer perspective
	Costs are the main risks	*, FMCG industry, manufacturer perspective
Uncertainty of change in key personnel: Factors which indicate an uncertainty that there will be a change in the important persons	Assignment of new employees to partnership teams	Landeros et al. (1995), buyer and supplier perspective
	Reassignment of partnership champion	Landeros et al. (1995), buyer and supplier perspective
	Vulnerability of collaboration project biggest risk: if one party involved terminates relation within project	*, FMCG industry, retailer perspective
Uncertainty of change in ownership: Factors which indicate an uncertainty of a change in the ownership	Acquisition of one of the partners by a third party	Landeros et al. (1995), buyer and supplier perspective
	Having unequal share of financial responsibility in the partnership	Landeros et al. (1995), buyer and supplier perspective
Uncertainty of changes in the partner base: Factors which indicate an uncertainty due to changes in the partner base	Entrance of new firms in the base	Landeros et al. (1995), buyer and supplier perspective
	Expanding for contracting technological advantages in the base	Landeros et al. (1995), buyer and supplier perspective
	Exiting of existing firms from base	Landeros et al. (1995), buyer and supplier perspective
	Increasing or decreasing purchases by firms in the base	Landeros et al. (1995), buyer and supplier perspective
	Increasing or decreasing sales by firms in the base	Landeros et al. (1995), buyer and supplier perspective
Uncertainty of climatic factors: Factors which indicate an uncertainty of changes in the climate and their impacts	Environmental issues	Landeros et al. (1995), buyer and supplier perspective
	Natural disasters	Landeros et al. (1995), buyer and supplier perspective
	Weather changes	Landeros et al. (1995), buyer and supplier perspective
Uncertainty of competition: Factors which indicate an uncertainty of future competition and competitiveness of the party	Entrance of new competition or new competitive advantages in the industry	Landeros et al. (1995), buyer and supplier perspective
	Uncertainty of decreased competitiveness	Maloni and Benton (1997)
Uncertainty of economy: Factors which indicate an uncertainty of a change of the system and industry	Balance of payment	Landeros et al. (1995), buyer and supplier perspective
	Depression	Landeros et al. (1995), buyer and supplier perspective
	Deficits	Landeros et al. (1995), buyer and supplier perspective
	Fiscal policies	Landeros et al. (1995), buyer and supplier perspective
	Inflationary or deflationary trend	Landeros et al. (1995), buyer and supplier perspective
	Interest rates	Landeros et al. (1995), buyer and supplier perspective
	Monetary policies	Landeros et al. (1995), buyer and supplier perspective
	Prosperous business cycle	Landeros et al. (1995), buyer and supplier perspective

Table 8 (continued)

General Factor	Factor	Paper, Industry, Perspective
Uncertainty of economy: Factors which indicate an uncertainty of a change of the system and industry	Recession	Landeros et al. (1995), buyer and supplier perspective
	Recovery	Landeros et al. (1995), buyer and supplier perspective
	Surpluses	Landeros et al. (1995), buyer and supplier perspective
	Tax rates	Landeros et al. (1995), buyer and supplier perspective
Uncertainty of government: Factors which indicate an uncertainty of the government	Americans with Disables Act	Landeros et al. (1995), buyer and supplier perspective
	Domestic content requirements	Landeros et al. (1995), buyer and supplier perspective
	Equal employment opportunity	Landeros et al. (1995), buyer and supplier perspective
	Safety and health regulations	Landeros et al. (1995), buyer and supplier perspective
	Wage and price controls	Landeros et al. (1995), buyer and supplier perspective
Uncertainty of high dependency: Factors which indicate an uncertainty of the dependency on another party	Contract uncertainty; parties are mutually dependent	*, FMCG industry, LSP, manufacturer and retailer perspective
	Dependency	Niderkofler (1991); Visser (2010), chemical industry, logistics collaboration and outsourcing, shipper perspective; *, FMCG industry, LSP, manufacturer and retailer perspective
	Heavy reliance on the partner	Maloni and Benton (1997)
Uncertainty of losing clientele: Factors which indicate an uncertainty of losing customers	Risk of losing clientele to competitors	Cruijssen et al. (2007), transport and logistics industry, LSP perspective
Uncertainty of losing transparency: Factors which indicate an uncertainty of a change in transparency in the future	Danger of commercial usage of confidential information	*, FMCG industry, LSP perspective
	Uncertainty of losing transparency	Visser (2010), chemical industry, shipper perspective; *, FMCG industry, manufacturer perspective
Uncertainty of organizational socialization: Factors which indicate an uncertainty of changes in the process through which new employees learn to adapt to the organizational culture	Enriching team potency	Landeros et al. (1995), buyer and supplier perspective
	Establishing the partnership team's importance, purpose and identity	Landeros et al. (1995), buyer and supplier perspective
	Setting up relationships among members	Landeros et al. (1995), buyer and supplier perspective
	Setting team tasks	Landeros et al. (1995), buyer and supplier perspective
	Training existing and new members	Landeros et al. (1995), buyer and supplier perspective
Uncertainty of performance problems: Factors which indicate an uncertainty of problems with the performance and quality in the future	Data reliability	*, FMCG industry, retailer perspective
	Late or missed deliveries	Landeros et al. (1995), buyer and supplier perspective
	Quality performance problems	Landeros et al. (1995), buyer and supplier perspective; *, FMCG industry, retailer perspective
	Uncertainty of outcome	*, FMCG industry, retailer perspective